



# KEYSTONE SPACE COLLABORATIVE INAUGURAL CONFERENCE

\*Indicates participation is anticipated in-person but a virtual presentation will be provided if unable to participate in person.

## Tuesday, April 19, 2022 – Pre-Conference

6:30 p.m. - 9:00 p.m.	<b>Speaker Dinner at Monterey Bay atop Mount Washington</b> <i>(Invitation Only)</i>
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## Wednesday, April 20, 2022 – Day 1

6:45 a.m.	<b>Registration Opens</b>
7:00 a.m. - 8:00 a.m.	<b>Industry Council Breakfast</b> <i>(Invitation Only)</i>
7:30 a.m. - 8:00 a.m.	<b>Continental Breakfast</b>
8:00 a.m. - 8:20 a.m.	<b>Welcome and Opening Remarks</b> <i>Dr. Steven Knapp, Carnegie Museums of Pittsburgh</i> <i>Justine Kasznica, Keystone Space Collaborative Board Chair</i>
8:20 a.m. - 8:45 a.m.	<b>Kickoff Plenary: Introduction to Regional Space Ecosystem</b> <b>Sponsored by West Virginia University Corporate Relations</b> <i>Senator Shelley Moore Capito, United States Senate</i> <b>Introduced by West Virginia Delegate Moore Capito</b>
8:45 a.m. - 9:10 a.m.	<b>Industry Report and Ecosystem Map</b> <b>Sponsored by West Virginia University Corporate Relations</b> <i>Fletcher Franklin, BryceTech</i>  BryceTech will present the interactive ecosystem mapping tool they created to highlight what organizations are involved in space-related activity in the region. They will also share their regional space industry report and our “regional scorecard”.
9:10 a.m. - 9:30 a.m.	<b>Space Commerce Matters Ecosystem Update</b> <b>Sponsored by West Virginia University Corporate Relations</b> <i>Cynthia Bouthot, President, Space Commerce Matters</i>  Space Commerce Matters (SCM) will share their reports highlighting the current and future space ecosystem in the tri-state region. SCM will present their ecosystem gap assessment as well their long-term strategy to grow our ecosystem, especially into non-traditional space sectors and organizations.
9:30 a.m. - 10:15 a.m.	<b>Breakout Discussions</b> <b>Sponsored by West Virginia University Corporate Relations</b> <i>Keystone Space Collaborative Board</i>  Following the above presentations, multiple interactive breakout sessions will be conducted and led by local industry leaders and legislators across our region, which will discuss the current ecosystem and brainstorm how we can execute growth strategies.



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## Wednesday, April 20, 2022 – Day 1 (continued)

10:15 a.m. - 10:45 a.m.	<b>Networking Break</b>
10:45 a.m. - 11:00 a.m.	<b>Breakout Discussions Summary Session</b>
11:00 a.m. - 11:40 a.m.	<p><b>“Space is Done Here. We Are Pittsburgh’s Space Company.”</b>  <b>Sponsored by Babst Calland</b>  <i>John Thornton, Chief Executive Officer, Astrobotic</i></p> <p>Pittsburgh’s Astrobotic is building the space robotics company of tomorrow with the goal to make space accessible to everyone. CEO, John Thornton, will provide an update on Astrobotic’s Peregrine mission, the first American lunar mission since the Apollo era, as well as the first-ever commercial lunar mission scheduled to fly later this year. Mr. Thornton will provide his perspective on how the work now being done at Astrobotic, in Pittsburgh and the tri-state region is driving the future of a robust commercial space economy.  <b>Introduced by Ed Gainey, Mayor of Pittsburgh</b></p>
11:40 a.m.	<p><b>Break/Luncheon</b>  <b>Sponsored by ZIN Technologies</b></p>
12:05 p.m. – 12:10 p.m.	<p><b>Remarks</b>  <i>Tom Wolf, Governor of Pennsylvania</i></p>
12:10 p.m.	<p><b>Remarks</b>  <i>Bill Nelson, NASA Administrator</i></p>
12:20 p.m. – 12:40 p.m.	<p><b>Lunchtime Keynote – We Will Make the Way</b>  <i>Congressman Matthew Cartwright</i></p> <p>U.S. Congressman Matt Cartwright (PA08) will discuss how the Keystone Region is on the precipice of great opportunity as stars align to propel our unique history as industrial leaders into our next era as makers for space. And how we can ignite this potential by working together, growing our strengths, and believing the sky is the limit.</p>
12:40 p.m. - 1:30 p.m.	<p><b>NASA Panel</b></p> <p>Congressman Cartwright (PA-8) will moderate a discussion with top NASA leadership, highlighting NASA’s plans for Artemis, space science and technology missions, and other key priorities, and how the Tri-State region can emerge as a key driver in helping NASA to achieve these goals.</p> <p><i>Dr. Thomas Zurbuchen, NASA Science Associate Administrator</i>  <i>James Reuter, NASA Space Technology Associate Administrator</i>  <i>Carlos Garcia-Galan, NASA Glenn Research Center</i>  <i>Bill Nelson, NASA Administrator</i>  <b>Moderator: Congressman Matthew Cartwright</b></p>



# KEYSTONE SPACE COLLABORATIVE INAUGURAL CONFERENCE

**Wednesday, April 20, 2022 – Day 1 (continued)**

<p><b>1:40 p.m. - 2:40 p.m.</b></p>	<p><b>Space Literacy and Career Readiness</b> <b>Sponsored by Nova Space Inc.</b></p> <p>Bolstering the Space ecosystem is critical to exploration and discovery, advancing research and technologies for space and terrestrial applications, developing strategic military advantages, and resource utilization to ensure the survival of humanity. Space offers a multitude of career opportunities ranging from traditional STEM fields to the arts and humanities and includes disciplines like medicine, law, policy, and business. This panel will discuss a path toward making space literacy and space career readiness a regional priority, by building space-relevant programs designed to create a diverse regional space career-ready workforce, starting with elementary school children through mid-career professionals.</p> <p><i>Nikole Sheaffer, Carnegie Science Center</i>  <i>Sam Reiman, Director, Richard K. Mellon Foundation</i>  <i>Sam Moore, Moonshot Museum</i>  <i>Christopher Allen, Nova Space Inc.</i>  <i>Shaun Tomaszewski, Baldwin High School</i>  <b>Moderator: Michael Docherty, Keystone Space Collaborative</b></p>
<p><b>2:40 p.m. - 3:40 p.m.</b></p>	<p><b>Space Venture Capital (Virtual Presentation)</b> <b>Sponsored by The German American Chamber of Commerce, Pittsburgh Chapter</b></p> <p>It's not just about space R&amp;D and rocket launches. Venture capitalists and investors realize the tremendous revenue opportunities offered by the growing global space economy and are removing barriers and fueling the advancement of the commercial space industry. The development of space ecosystems provides a new opportunity to leverage an entirely new sector involving supply chain, legal, manufacturing, robotics, and life sciences as novel revenue drivers. Hear from some of the nation's top VCs and Angel investors making space investments today as they discuss space investment and market trends as well as their respective space investment theses.</p> <p><i>Gareth Keane, Promus Ventures*</i>  <i>Tess Hatch, Bessemer Venture Partners*</i>  <i>Brandon Farwell, Xfund*</i>  <i>Ellen Chang, H4XLabs*</i>  <b>Moderator: Ven Raju, Innovation Works</b></p>
<p><b>3:50 p.m. - 4:50 p.m.</b></p>	<p><b>Space Innovation – Commercial Low Earth Orbit</b> <b>Sponsored by Northrop Grumman Corporation</b></p> <p>Space is becoming much more of a commercial marketplace, especially in Low Earth Orbit (LEO). Many commercial companies are developing new LEO platforms that support research, manufacturing, and technology development, including those with a presence in the Tri-State region. This panel will discuss some of the current and upcoming facilities being developed for operation in LEO, as well the various terrestrial markets that can take advantage of these unique platforms.</p> <p><i>Ken Savin, RedWire</i>  <i>Ken Shields, Sierra Space</i>  <i>Mike Johanson, ZIN Technologies</i>  <i>Siobhan Malany, Micro-gRx</i>  <i>Sean Tully, Northrop Grumman Corporation</i>  <b>Moderator: Cynthia Bouthot, Space Commerce Matters</b></p>



# KEYSTONE SPACE COLLABORATIVE INAUGURAL CONFERENCE

## Wednesday, April 20, 2022 – Day 1 (continued)

<p><b>4:50 p.m. - 5:10 p.m.</b></p>	<p><b>Closing Keynote - Ensuring U.S. Leadership in Space Tech</b> <i>James Reuter, NASA Space Technology Associate Administrator</i></p> <p>NASA's Space Technology Mission Directorate (STMD) partners with industry and academia on research, development, and demonstrations to enable future missions. Its investments keep NASA and the nation's technology pipeline strong and growing with emerging capabilities. Learn about STMD's strategic framework, technology portfolio, and future funding opportunities.</p>
<p><b>5:10 p.m. – 7:30 p.m.</b></p>	<p><b>Keystone Space Collaborative Reception</b> <i>Remarks by Dr. Steven Knapp</i></p> <p>KSC Conference attendees get to meet and greet for this reception at the Carnegie Science Center's famed Roboworld®. Our reception area is the world's largest permanent exhibit of robots old and new, large and small. Grab a beverage and some light hors d'oeuvres while exploring the interactive hands-on exhibits, play air hockey against a robot, or wonder at the many ways that robots can think, sense, and take action. Steps away, attendees can enjoy a curated 20-minute show at the Buhl Planetarium produced by the Carnegie Science Center and the Moonshot Museum.</p>
<p><b>5:15 p.m. – 7:30 p.m.</b></p>	<p><b>Tours of Astrobotic Facility / Moonshot Museum</b> <b>Sponsored by Astrobotic and Moonshot Museum</b></p> <p>Did you know that Pittsburgh had its own Mission Control? It's no longer just Houston and Cape Canaveral calling the shots. Attendees of the Inaugural Keystone Space Conference will have an exclusive tour through the Astrobotic Technologies facility which is a stone's throw away from the Carnegie Science Center. Roundtrip shuttle transportation will be provided for small group tours lasting approximately 25 minutes. The first stop will be the main hall of the Moonshot Museum which is expected to open its doors later in 2022. The museum offers a wall of windows looking directly into Astrobotic's Clean Room where, if luck is on our side, KSC attendees might catch a glimpse of something very special going on inside. Tours will visit Mission Control and, weather-permitting, the rooftop patio where a replica of the Lunar Lander will be permanently affixed to the roof.</p> <p><b>Planetarium Demonstrations and Networking</b> <b>Sponsored by Moonshot Museum and The Carnegie Science Center</b></p> <p>Move from Roboworld inside the Carnegie Science Center into the Buhl Planetarium to engage in focused conversation with other attendees under the stars. Tables will be set up for networking as educators from the Carnegie Science Center and the Moonshot Museum conduct hands-on demonstrations. Be sure to attend the finale inside the planetarium at 7:20 pm as we wrap up Day 1.</p>
<p><b>7:30 p.m.</b></p>	<p><b>Reception Conclusion – Day 1 Events</b></p>



# KEYSTONE SPACE COLLABORATIVE INAUGURAL CONFERENCE

## Thursday, April 21, 2022 – Day 2

6:45 a.m.	<b>Registration Opens</b>
7:00 a.m. - 8:00 a.m.	<p><b>VIP and Speaker Breakfast</b> <i>(Invitation Only)</i> <b>Sponsored by Sierra Space</b></p> <p>Those registering at the VIP level will have exclusive access to the incredible line-up of speakers presenting at the KSC Conference. As a VIP registrant at the KSC Conference, you are provided with a personalized experience where you can hold one-on-one conversations with some of the biggest and brightest leaders in the galaxy – pun intended. Be sure to show up for this private breakfast beginning at 7 a.m. to meet our renowned presenters and the KSC Board of Directors.</p>
7:30 a.m. - 8:00 a.m.	<b>Attendee Continental Breakfast</b>
8:00 a.m. - 8:15 a.m.	<p><b>Welcome Remarks, Day One Overview, and Future of Keystone Space Collaborative</b> <i>Kim Amey, Carnegie Science Center</i> <i>Justine Kasznica, Keystone Space Collaborative Board Chair</i></p>
8:15 a.m. - 8:20 a.m.	<p><b>Remarks and Introduction</b> <i>Congresswoman Chrissy Houlahan, United States Senate*</i></p>
8:20 a.m. - 9:05 a.m.	<p><b>Opening Keynote - The Future of Humanity in Space: Enablers and Impediments</b> <i>Dylan Taylor, Chief Executive Officer, Voyager Space</i> <b>Sponsored By Ansys</b></p> <p>This session will discuss the incredible pace of change in the space industry. In addition to his own experience as a commercial astronaut on Blue Origin, Dylan will discuss the future of the space industry as both an investor and the CEO of one of the major infrastructure companies in the industry.</p>
9:05 a.m. - 9:55 a.m.	<p><b>Space Research and Development: Leveraging Regional Research Strengths</b> <b>Sponsored By Carnegie Mellon University</b></p> <p>Our region’s academic institutions are a critical strength in building the space economy in the Tri-State. Meet and hear from top university thought leaders as they discuss their exciting space research projects and share their perspectives on space-relevant R&amp;D opportunities across the region.</p> <p><i>John Horack, The Ohio State University</i> <i>Howie Choset, Carnegie Mellon University</i> <i>Aleksandra Radlinska, Penn State University</i> <i>Katherine Goodrich, West Virginia University</i> <b>Moderator: Matthew Johnson-Robertson, Carnegie Mellon University</b></p>



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## Thursday, April 21, 2022 – Day 2 (continued)

<p><b>10:10 a.m. - 11:10 a.m</b></p>	<p><b>Space Biomanufacturing in Low Earth Orbit</b>  <b>Sponsored by The McGowan Institute</b></p> <p>A key advantage of the LEO environment for life sciences research is the ability to conduct experiments in sustained microgravity conditions. Over the last decade, space-based research has demonstrated that microgravity informs our knowledge of fundamental biology and accelerates advancements in health care and medical technologies. This session will highlight an academic-industry model being launched to accelerate research in LEO as well as feature some of the latest novel research programs utilizing the LEO platform.</p> <p><i>William R. Wagner, The McGowan Institute</i>  <i>Prashant Kumta, University of Pittsburgh/McGowan Institute</i>  <i>Nicole Wagner, LambdaVision</i>  <i>Jana Stoudemire, Axiom Space</i>  <i>Aaron Rogers, RedWire</i>  <b>Moderator: Joe Bozada, Interphase Materials</b></p>
<p><b>11:10 a.m. - 12:00 p.m.</b></p>	<p><b>Strengthening the Aerospace &amp; Defense Manufacturing Supply Chain</b>  <b>Sponsored By AIM Higher Consortium</b></p> <p>Hear how local defense supply chain businesses are implementing best practice solutions to common defense supply chain challenges. Topics will include, but not be limited to additive manufacturing/3D printing, chip shortages, cyber security certification, and workforce hiring and upskilling.</p> <p><i>David Sweet, MECCO Marking &amp; Traceability</i>  <i>John Barnes, The Barnes Global Advisors</i>  <i>Mark Sewell, Catalyst Connection</i>  <i>Sandra DeVincent Wolf, Carnegie Mellon University, Manufacturing Futures Institute</i>  <b>Moderator: Petra Mitchell, AIM Higher Consortium (managed by Catalyst Connection)</b></p>
<p><b>12:00 p.m. - 12:45 p.m.</b></p>	<p><b>Closing Keynote – Space Military and Defense</b>  <i>Andrew Nelson, Nelson Aerospace Consulting Associates</i></p>
<p><b>1:00 p.m.</b></p>	<p><b>Conference Concludes</b></p>
<p><b>1:30 p.m. – 3:30 p.m.</b></p>	<p><b>Private VIP/Speaker Tour of Mill 19</b>  <b>Sponsored by Carnegie Mellon University, Manufacturing Futures Institute</b></p> <p>Join the Carnegie Mellon University (CMU) Manufacturing Futures Institute (MFI) to learn about the innovation ecosystem here in the region and MFI's role in that. An overview of the groundbreaking research in additive manufacturing, intelligent robotics for manufacturing, digital twin/digital thread, generative manufacturing, and the future of work will be given, accompanied by a discussion of the partnerships here in the region that make the future of advanced manufacturing possible. A tour of the Mill 19 advanced manufacturing facility will follow.</p>



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## Thank You to Our 2022 Conference Event Sponsors



## Special Thank You



The Keystone Space Collaborative recognizes grant support received by the Richard K. Mellon Foundation

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